

^{235}U and ^{239}Pu Sample-Mass Determinations and Intercomparisons

by

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ABSTRACT

The masses of fifteen ^{235}U samples obtained from seven laboratories were determined and intercompared. The present results indicate that sample masses are well enough known ($\pm 0.3\%$) for the required high-accuracy-fission cross-section measurements. A comparison of four ^{239}Pu samples indicates problems in the order of 1-3% which are more likely, to be related to counting efficiencies than to sample masses. The half-life of ^{234}U was determined as $(2.457 \pm 0.005) \cdot 10^5$ yrs.

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